

Amendment and Response

Applicant: Trudy L. Benjamin

Serial No.: 10/827,142

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Docket No.: 200309559-1

Title: FLUID EJECTION DEVICE

IN THE CLAIMS

Please amend claims 23, 26, 29, 30, 32, 58, 59 and 60 as follows:

1-8. Cancelled.

9. (Withdrawn) A fluid ejection device comprising:

firing cells including a first bank of firing cells and a second bank of firing cells; and
a first address generator configured to respond to control signals to selectively provide
a first sequence of first address signals adapted to enable the first bank of firing cells for
activation and a second sequence of second address signals adapted to enable the second bank
of firing cells for activation, wherein the second sequence of second address signals is
selectively provided independent of the first sequence of first address signals.

10. (Withdrawn) The fluid ejection device of claim 9, wherein one of the control signals
comprise control pulses and the first address generator is configured to respond to the control
pulses to initiate the first sequence and to initiate the second sequence.

11. (Withdrawn) The fluid ejection device of claim 9, wherein the control signals
comprise a series of timing pulses and the first address generator is configured to respond to
the series of timing pulses to provide the first address signals and the second address signals.

12. (Withdrawn) The fluid ejection device of claim 9, wherein the control signals
comprise control pulses and a series of timing pulses and the first address generator is
configured to initiate the first sequence and to initiate the second sequence in response to
receiving control pulses substantially coincident with timing pulses in the series of timing
pulses.

13. (Withdrawn) The fluid ejection device of claim 9, wherein the control signals
comprise control pulses and a series of timing pulses and the first address generator is
configured to initiate the first sequence in response to receiving a first control pulse in the
control pulses substantially coincident with a first timing pulse in the series of timing pulses.

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14. (Withdrawn) The fluid ejection device of claim 13, wherein the first address generator is configured to initiate the second sequence in response to receiving a second control pulse in the control pulses substantially coincident with a second timing pulse in the series of timing pulses.

15. (Withdrawn) The fluid ejection device of claim 14, wherein the first timing pulse and the second timing pulse are different timing pulses in the series of timing pulses.

16. (Withdrawn) The fluid ejection device of claim 14, wherein the first address generator further comprises:

a direction circuit configured to set a first direction signal in response to receiving a third control pulse in the control pulses substantially coincident with a third timing pulse in the series of timing pulses.

17. (Withdrawn) The fluid ejection device of claim 16, wherein the third timing pulse and the first timing pulse are different timing pulses in the series of timing pulse and the third timing pulse and the second timing pulse are different timing pulses in the series of timing pulses.

18. (Withdrawn) The fluid ejection device of claim 17, wherein the direction circuit receives a fourth timing pulse in the series of timing pulses and responds to the fourth timing pulse to set a second direction signal.

19. (Withdrawn) The fluid ejection device of claim 18, wherein the first timing pulse and the second timing pulse and the third timing pulse and the fourth timing pulse are different timing pulses in the series of timing pulses.

20. (Withdrawn) The fluid ejection device of claim 18, wherein the fourth timing pulse follows the third control pulse and the first timing pulse occurs at a different time than between the third control pulse and the fourth timing pulse.

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21. (Withdrawn) The fluid ejection device of claim 18, wherein the fourth timing pulse follows the third control pulse and the first timing pulse and the second timing pulse occur at different times than between the third control pulse and the fourth timing pulse.

22. (Withdrawn) The fluid ejection device of claim 9, wherein the firing cells comprise a third bank of firing cells and a fourth bank of firing cells and the fluid ejection device further comprises:

a second address generator configured to respond to the control signals to selectively provide a third sequence of third address signals adapted to enable the third bank of firing cells for activation and a fourth sequence of fourth address signals adapted to enable the fourth bank of firing cells for activation, wherein the third sequence of third address signals is selectively provided independent of the fourth sequence of fourth address signals.

23. (Currently Amended) A fluid ejection device comprising:

firing cells including a first group of fluid ejection elements and a second group of fluid ejection elements;

an address generator including:

first bank circuitry configured to receive a first group of timing pulses from a series of timing pulses and generate a first sequence of varying address signals in response to the first group of timing pulses, wherein the first sequence of varying address signals is adapted to enable the first group of fluid ejection elements; and

second bank circuitry configured to receive a second group of timing pulses from the series of timing pulses and generate a second sequence of varying address signals in response to the second group of timing pulses, wherein the second sequence of varying address signals is adapted to enable the second group of fluid ejection elements.

24. (Previously Presented) The fluid ejection device of claim 23, wherein the first bank circuitry comprises:

a first shift register configured to provide first output signals.

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25. (Previously Presented) The fluid ejection device of claim 24, wherein the second bank circuitry comprises:

a second shift register configured to provide second output signals.

26. (Currently Amended) The fluid ejection device of claim 25, wherein the first bank circuitry comprises a first logic circuit configured to provide the first sequence of varying address signals based on the first output signals and the second circuitry comprises a second logic circuit configured to provide the second sequence of varying address signals based on the second output signals.

27. (Previously Presented) The fluid ejection device of claim 25, wherein the address generator comprises:

a direction circuit configured to receive a third group of timing pulses from the series of timing pulses and provide direction signals in response to the third group of timing pulses.

28. (Original) The fluid ejection device of claim 27, wherein the first shift register and the second shift register receive the direction signals and shift in a selected direction based on the direction signals.

29. (Currently Amended) The fluid ejection device of claim 24, wherein the first bank circuitry comprises:

a first logic circuit configured to provide the first sequence of varying address signals based on the first output signals.

30. (Currently Amended) The fluid ejection device of claim 23, wherein the first bank circuitry comprises:

a first logic circuit configured to provide the first sequence of varying address signals in response to the first group of timing pulses.

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31. (Previously Presented) The fluid ejection device of claim 23, wherein the address generator comprises:

a direction circuit configured to receive a third group of timing pulses from the series of timing pulses and provide direction signals in response to the third group of timing pulses.

32. (Currently Amended) The fluid ejection device of claim 31, wherein the first bank circuitry and the second bank circuitry receive the direction signals and provide the first sequence of varying address signals and the second sequence of varying address signals in selected sequences based on the direction signals.

33. (Previously Presented) The fluid ejection device of claim 23, wherein the first bank circuitry is a first bank generator and the second bank circuitry is a second bank generator.

34. (Previously Presented) The fluid ejection device of claim 23, wherein the address generator is electrically coupled with both the first group of fluid ejection elements and the second group of fluid ejection elements, wherein the first bank circuitry is coupled to the first group of fluid ejection elements and not the second group of fluid ejection elements, and wherein the second bank circuitry is coupled to the first group of fluid ejection elements and not the second group of fluid ejection elements.

35-57. Cancelled.

58. (Currently Amended) A fluid ejection device comprising:
firing cells including a first group of resistors and a second group of resistors;
an address generator electrically coupled to the first group of resistors and the second group of resistors, the address generator including:

first bank circuitry configured to receive a first group of timing pulses and generate a first sequence of varying address signals in response to the first group of timing pulses, the first bank circuitry electrically connected to the first group of resistors and not the second group of resistors, wherein the first sequence of varying address signals is adapted to enable the first group of resistors to conduct; and

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second bank circuitry configured to receive a second group of timing pulses and generate a second sequence of varying address signals in response to the second group of timing pulses, the second bank circuitry electrically connected to the second group of resistors and not the first group of resistors, wherein the second sequence of varying address signals is adapted to enable the second group of resistors to conduct.

59. (Currently Amended) The fluid ejection device of claim 58, wherein the first bank circuitry comprises:

a first shift register configured to provide first output signals; and

a first logic circuit configured to provide the first sequence of varying address signals based on the first output signals.

60. (Currently Amended) The fluid ejection device of claim 59, wherein the second bank circuitry comprises:

a second shift register configured to provide second output signals; and

a second logic circuit configured to provide the second sequence of varying address signals based on the second output signals.

61. (Previously Presented) The fluid ejection device of claim 58, wherein the address generator comprises:

a direction circuit configured to receive a third group of timing pulses from the series of timing pulses and provide direction signals in response to the third group of timing pulses.

62. (Original) The fluid ejection device of claim 61, wherein the first shift register and the second shift register receive the direction signals and shift in a selected direction based on the direction signals.

63. (Previously Presented) The fluid ejection device of claim 58, wherein the first bank circuitry is a first bank generator and the second bank circuitry is a second bank generator.

64. (Cancelled).